this hour, more ready than perhaps any branch, official or unofficial, of the United States.

As the war develops, as our young men go into the field, first for training and then perhaps for the same bit of fighting that the Allies have been enduring for nearly three years, this corps of Red Cross nurses will win the gratitude, affection and admiration of every American citizen. Fathers, mothers, wives and sweethearts of this great army of young men, who go out to fight the battle of liberty, will come to a full realization of what it means, to know that trained and devoted women are in the hospitals to give prompt, careful and tender care to those whom they have sent as their greatest contribution to the cause in which we are now enlisted.

TEACHING NURSES IN TRAINING THE USES AND VALUE OF SICKNESS STATISTICS[1]

By LOUIS I. DUBLIN, Ph.D.

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The completion of clinical records and of case histories is now one of the established duties of the graduate nurse. The nurses with whom my professional work brings me into closest contact, namely, public health nurses, spend a considerable part of their working time in completing records of their cases. I have often thought that these duties are looked upon by nurses as a necessary evil, as a sort of penalty which they must pay for the more pleasant and more interesting work at the bedside or in the home. The statistician for whom these records are prepared is considered, I have imagined, a sort of *bête noir*, somehow powerful and not to be denied but an awful nuisance, nevertheless. This attitude, if I am correct in my diagnosis, results from the fact that in few, if any, training schools for nurses is any effort made to instruct students in the wider use and value of the records they must complete. There is, of course, a certain amount of direct and often excellent instruction in filling out the forms used, especially the t. p. r. charts and the other bedside records, but this is as far as such instruction goes. The nurses do not see what it is all about, how this work which takes so much of their time serves useful ends; how it aids for example, in hospital administration; how it serves, except in the most general way, the patient, the physician or the community.

Miss Crandall, with her full and rich experience in public health nursing sees the value of the statistical side of nursing work and would

[1] Read before the twentieth annual convention of the American Nurses' Association, Philadelphia, May 1, 1917.

have me discuss this subject with you. If I understand correctly, Miss Crandall wants me to point out how nurses may be more adequately instructed in the completion of their records, when and where they may receive such instruction and how there may be imparted to them an understanding of the use and value of such work in order that they may appreciate the larger possibilities of their field.

Let me at the outset indicate my conception of the general function of the nurse. Hers is a profession and not a trade. Her work is not limited to the routine bedside care of sick persons. She shares today with the doctor the broader function of preventing and controlling disease. To do this, she must see the relation of her routine work to the larger purposes of the community. Sickness is one of the chief causes of maladjustment in family and social life. It brings about more community distress than any other single factor. On the other hand, it is often the result of social forces like ignorance, immorality, overcrowding, poverty, underfeeding, etc. The effective nurse is one who realizes the relation of her work to the welfare of society and sees the part that she must play in the great campaign for health. It was in this spirit that Florence Nightingale labored and it is significant that she was as effective a student of sickness as she was efficient as a nurse. Her statistical work is a land-mark in our science. This phase of her work became with her almost a religious passion and it is appropriate on this occasion to express the great indebtedness of modern social statistics to the efforts of this great nurse and woman. As her spirit animates the nurses of today, so will their work be more practical because more purposeful.

How then may we hope to reach the nurse in training and impart to her an appreciation of the use and value of sickness statistics? The subject must be taught first in the schools of nursing. As I have already pointed out this is only partly done. The nurse in training receives instruction in the preparation of temperature, pulse, and respiration charts and in the keeping of daily records of medication and treatment, and of the physical condition of the patient. Under competent direction, the nurse soon learns what is required of her in the completion of these forms. Much more may be wisely attempted however. The instructors in theoretical and practical nursing provided by the leading schools in the United States today should first themselves carefully study the wider use of medical records kept by hospitals and other medical institutions. They will then be able better to impart to their pupil nurses the chief elements in the record problem. Because of the limited opportunity to teach the uses of statistics as an independent subject the nursing instructors should

occasionally indicate the value of medical records in their lectures on general nursing information. In addition, a brief course of lectures on sickness records, say two or three, should be given somewhere in the training period by a competent person. This could be done either by an outside statistician or by some physician connected with the hospital who is interested in the records of the institution.

These several efforts will give the pupil nurse a better opportunity to see why she is expected to take pains in completing her forms and the use to which these forms are put. Perhaps more important than all this, such instruction will give the nurse an opportunity to see some of the broader aspects of her work; and this will have a very favorable effect on her cultural development. It will make her feel the dignity of her profession; how it supplements that of the physician and of the institution manager in helping to solve the larger problems of medical practice. While the nurse cannot go far into the details of the medical sciences without trespassing, it is nevertheless true that an elementary understanding of the aims and purposes of the auxiliary medical sciences, of which statistics is one, tends to broaden the nurse's outlook upon her work and upon her life.

In the few special lectures to which I have referred sickness statistics could be explained to the pupil nurses somewhat in this manner: "The real essence of nursing must always be personal service for the sick and disabled. This service must be based upon knowledge of the elements of anatomy, physiology, the properties and action of common drugs, of dietetics and cookery, personal hygiene and household sanitation and other practical subjects which bear upon the immediate welfare of the patient. Apart from these practical aspects of care for the individual case of sickness, however, *a nurse has a right to inquire into the causes of disease and disability and the administration of hospital and other service for the sick and disabled.* The nurse must primarily know how to advance the comfort and welfare of the individual patient, but her real understanding of the case is not complete unless she has an adequate idea of the causes of disease and of the administration of those institutions and organizations combating it." The lecturer should then emphasize the fact that "complete and accurate medical records alone make possible the study of these broader phases of the sickness problem."

All medical workers strive to attain the largest results for the smallest expenditure of time and effort. The achievements of a particular hospital, for example, in the management of a disease or condition, cannot become known to other hospitals until the statistics based upon medical records are compiled and published. Hospital economies can

be effected only when we know the number and character of the different diseases and injuries among the patients who enter the hospital, the average time these patients spend in the hospital, the number of recoveries and deaths among these patients and other important facts of hospital economy. Thus it may be shown, for instance, that a very large proportion of the limited finances of one hospital are consumed by medical care for some one or a group of preventable diseases, with the result that many important cases of other diseases are excluded from the benefits of hospital treatment. The efficient hospital executive must know the relation of the duration of treatment to the general utility of his hospital; if it can be shown by a study of these statistics that an unduly long average duration of treatment could be shortened by appropriate methods, the usefulness of that hospital in the community could be extended. But before any of these things can be done we must first know the facts, and these facts can be obtained only by a system of hospital statistics based upon the records prepared by physicians and nurses. It must be remembered that the radical progress in hospital construction and management which took place between the years 1858 and 1863 in the United Kingdom was based entirely upon a critical statistical examination of the entire hospital situation. This examination consisted in the compilation of medical or sickness statistics from the records kept in the hospitals, so correlated by nature of disease, sex and age of patients, sanitary condition of wards and systems of nursing care, as to point out existing defects in hospital construction and management. There are some lessons in the treatment of diseases which can be learned only after a survey of many cases over a considerable period of time. Hospital medical statistics, based upon hospital records, alone can establish the facts.

Still further, the lecturer might say: "Physicians and nurses are more than likely to acquire a one-sided attitude toward their work. This attitude is distinguished by a short focus method of viewing the aspects and prospects of the individual case under treatment. Sickness statistics furnish a longer range of view for the physician and nurse. Trifling peculiarities of individual cases often confuse a proper appreciation of the true facts of disease, its causes and its treatment. Statistics of sickness eliminate the petty differences between two cases of the same disease or condition and bring out a more liberal series of facts based upon large numbers of cases. Sickness statistics, therefore, free the mind from the tyranny of facts on short focus and provide a point of view which distinguishes the constant causes operating for the prevention and cure of sickness. The detailed study of a case of sickness is indeed essential for the comfort and welfare of the

patient; but a broader knowledge drawn from an examination of many similar cases is no less essential for the proper medical and nursing care of the sicknesses which arise in a community."

Thus will the lecturer have shown that the duties of physicians and nurses in the preparation of medical records may be deemed of serious importance as affecting the interests of the patient, the hospital and the community.

Besides this instruction in the schools of nursing, nurses may also be taught much that pertains to the uses and value of sickness statistics in their courses of post-graduate instruction. Indeed, such instruction is likely to be more productive than that given in the school of nursing. The nurse in post-graduate activity is more often entrusted with the preparation of complete records of medical and social conditions than during her hospital work. In the visiting nursing field especially the history of the case, the character of the treatment and its result and the final disposition of the patient are now recorded in detail by the post-graduate nurse. The larger nursing associations demand, I am glad to say, complete and accurate records of the work done by their staffs and it is encouraging also to observe that these records are being more and more standardized in the direction of satisfactory statements lending themselves admirably to later statistical analyses by the trained statistician. A number of the larger nursing associations have begun to make statistical studies of their records on their own account and I know that a larger number contemplate doing this. Wherever such work is undertaken, the superintendent of nurses should be careful to give adequate instruction to her staff in the proper method of completing the nursing record. She should also find occasion to hold staff meetings to consider the salient facts resulting from the study of the records of a year. Nothing will be so effective in educating nurses to the value of morbidity statistics as such object lessons of the uses to which these records are actually put.

The Company with which I am connected, as you know, has for a number of years compiled and analyzed the records of its extensive visiting nurse service. For the year 1916, the records of over 200,000 cases prepared by nurses in the field have come to the Statistical Bureau of the Company for study. These records are compiled, not only to give a picture of the experience of the nursing service as a whole but also to make possible a report on the work of the individual associations, the larger as well as the smaller ones. It has been Dr. Frankel's policy to put these studies of the essential facts of the service for Metropolitan policyholders at the disposal of the superintendents of local nursing associations and their boards of directors. These data, supple-

mented by similar tabulations of the association's own records, wherever that is done, will make excellent material for the instruction of the staff. I strongly recommend staff conferences for the study and discussion of these statistical reports. The nurses will then see that the records which they keep are not filed away to gather dust but are taken seriously and that it is out of the work they have done that these tabulations have been prepared. It will undoubtedly have an encouraging and educating effect on the nurses to see the uses to which their work is put. It is no exaggeration to say further that many administrative developments in the individual services will result from such conferences. This has been our own experience. Our reports have made possible the establishment of standards not only in the records but in the type of nursing work actually done. Thus, starting with very definite objects as to what should be obtained, our nursing supervisors have analyzed service after service to determine to what extent the individual associations meet or fail to meet our requirements. As you know our service is meant primarily to deal with acute diseases. The treatment of chronic cases is discouraged and is intended at most to be a minor part of the service. We, therefore, place great emphasis on the reporting of the disease or condition nursed. The diagnosis as reported by the nurse is the key to all the other items on the record. The superintendent of nurses in teaching her nurses should not lose this opportunity of pointing out these practical uses of records.

She may indicate still further the great value of other items in the nursing histories. Thus, the number of visits made in relation to disease or condition nursed is an indication of the adequacy of the service rendered. Our tabulations have shown in the past considerable variation in this regard in the several associations and services. Fortunately, the experience of several years has indicated to us the average number of visits for each of the important conditions and diseases and the effort of our nursing supervisors to control the service has borne fruit. The variation in the average number of visits is becoming less marked indicating the establishment of a standard. Furthermore, the experience of the best associations shows the optimum period of time for which the average case of any disease or condition should be carried by visiting nurses. We still find some associations carrying cases of disease over very long periods while others, perhaps with meagre facilities, make a specialty of transferring their cases to hospitals and other institutions and carry their cases only brief periods. The effect of our statistics is again to establish a norm of service for each condition. Finally the records make possible very useful instructions to

nurses and associations as to how often visits should be made in various conditions. Thus, in a condition like pneumonia, the best practice indicates that a visit should be made at least once a day during the critical period, although unfortunately such is not the practice in a large number of associations.

I might go on in this way and cover the other items in our annual analysis of the service and show how each of them makes useful matetial for the instruction of nurses in statistics of sickness, but this has been admirably done by Dr. Frankel in his various papers on the Nursing Service before your organization.

The nurses engaged in the more specialized fields of public health work can also be taught with great benefit to themselves the importance and value of nursing and social records. This applies especially to the fields of tuberculosis, infant welfare, mental hygiene, prenatal and school nursing. The statistical use of the record completed by the special public health nurse plays perhaps a more prominent part in her work than in that of the hospital or general visiting nurse. Special welfare programmes are often inaugurated because of a clearly established need in the community; and the continuance of such work depends very often upon a statistical demonstration of concrete results achieved. Supervisory and training agencies should bear in mind the need for instructing their workers in special public health activities, in the completion and final uses of the various records, medical and social, which they will be called upon to handle. Very important social investigations have recently been completed as the result of the activity of specialized nurses. This new phase of nursing work has a future of bright promise provided specialized nurses are in the first place recruited from among those of good basic education and are given adequate instruction in the methods of their work and in the value of the records to be employed.

The post-graduate and health nurse especially should receive instruction in how to record the economic and social condition of her patients. I need not point out the importance of such causative factors in sickness as long continued poverty, malnutrition resulting from poorly cooked or insufficient food, overcrowding and tenement life. Occupation is a most important item in the causation of disease. All of these elements should come up for comment on the part of the instructor and their bearing on the case be clearly pointed out. They are almost as essential for the proper handling of a case as the medical items.

Emphasis should also be placed upon the necessity for the use of standard systems of nomenclature in answering the questions on the record form. For instance, in stating diseases and injuries upon hos-

pital record forms the standard nomenclature authorized by Bellevue and Allied Hospitals, New York City, should be employed. In stating causes of death, the International List of Causes of Sickness and Death should be used. Indifference to the use of standard terms virtually destroys the value of many nursing and medical records. The nurse should be taught to avoid the use of vague, ill defined and unauthorized terms in filling out record forms. Statements of occupation also should follow standard practice, specifying both the industry or general nature of the work in addition to the specific trade or occupation in the industry.

In closing let me point out that the success or failure of the nurse in keeping case records and also in appreciating the importance of sickness statistics depends on the way the forms used are drawn up by the hospital superintendents and other administrative officials of public health and philanthropic societies. Good record keeping and enlightening analysis are practically impossible when the basic forms are poorly constructed and the items of information are asked for in a loose manner. A medical record should be a clear simple statement of the problem which it is designed to comprehend.[2] The questions on the schedule should be only such as bear directly on the points at issue in the case. It is not well to aim at many points of information and hit none of them. Irrelevant facts should be omitted. It is better in any medical record to have complete information with respect to relatively few items, than to disperse effort over an encyclopedic schedule which, for practical record keeping and statistical purposes, defeats the end it was designed to serve. Wherever possible the questions on the record form should be worded so as to call for numerical statements or replies of "yes" or "no." The facts of disease, occupation, marital condition, nationality, etc., call for a qualitative statement. Sufficient space should be left for a complete statement of the facts. It is important that record forms should be designed with care. The nurse cannot be expected to complete satisfactory records if the forms are drawn carelessly or unwisely.

I do not believe it feasible or desirable to teach most nurses or physicians the technical facts of statistical analysis. It will be sufficient if physicians and nurses become thoroughly alive to the significance of good record keeping and if they appreciate the value of such record keeping in medical administration and public health. The actual work of statistical analysis, however, should be left to the statistician who is

[2] This subject is discussed in more detail in the writer's paper on "The Application of the Statistical Method to Public Health Research," reprinted by the Metropolitan Life Insurance Company from the *American Journal of Public Health*, January, 1917.

trained for this particular task. The tabulation and interpretation of statistics like the cure of the sick, is a distinct art and this kind of work can be best done only by those who are trained in the art. This means that the statistician and the physician must work in the closest coöperation. Each has his part in the important work of collecting, tabulating, and analyzing the results of medical and hospital experience; the doctor to keep the records and the statistician to tabulate and analyze them. Nursing is likewise served by the application of statistical results to the facts of sickness in the community. The nurse also has her part to perform in the keeping of sickness records. Schools for the training of nurses, therefore, as well as those for the training of physicians, should impart to their students a proper appreciation of the importance of the keeping of hospital and medical records.

RELATION OF CLINICAL TO SOCIAL RECORDS[1]

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It is not without hesitation that I, not an authority on social service work, speak before such an assembly of experts on the subject of social service records. It is because social service departments have become so important in our civic hospitals and because social service records, together with the medical records, do now, and are going to still further, play so vital a part in the problems of hospital construction, as well as organization, that I take this opportunity to do so.

There are so many parallel and striking analogies between social and medical work that I believe the method used for recording medical work could be applied to social records and that it would lead to simplification and to far-reaching results in the future.

Social work, like medical, may be divided into the science and the art. A knowledge of the sciences of anatomy, physiology, pathology, are essentials to the surgeon dealing with a fractured bone. Deviation from nature's laws embodied in these sciences meets with disaster. The art of surgery, however, in treating the fracture, affords many methods, the rationale of which complies with these laws. A wooden splint, for example, may serve the purpose and satisfy these natural laws quite as well as one made from plaster of Paris. A knowledge of the science of ethics, economics, or tenement house construction, may be essential to the social worker dealing with a fractured life. The art of dealing with it, in compliance with these

[1] Read at the twentieth annual convention of the American Nurses' Association, May 1, 1917.